Leader in Electrics & Automation

Variable Frequency Drive / Inverter

STARVERT Series

iC5 / iG5 / iS5 / iH / iG5A / iP5A : 0.4~220kW

Automation Equipment

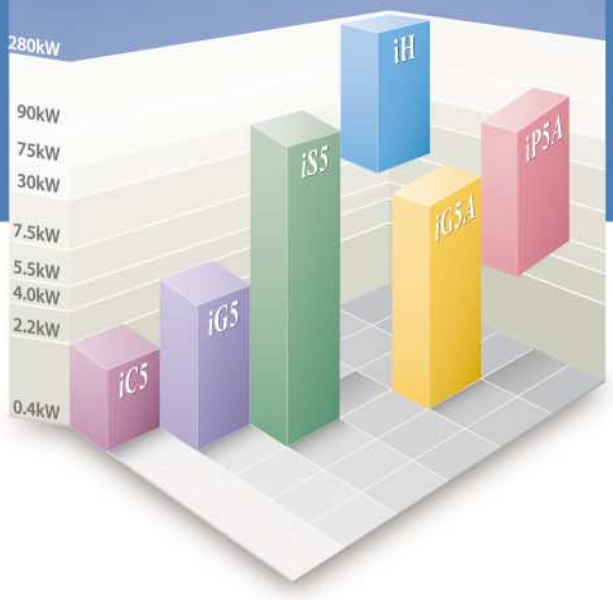
LS Industrial Systems

www.lsis.biz

Take another look!

Simplicity-Precision, Flexibility-Standardization and Easy to use-Diversity are the spiritual foundations of LS Starvert variable frequency drives.

As an one-stop drive solution provider LS is ready to offer its own competitive solutions into the general power transmission industry.



STARVERT series

Contents

- *Starvert iC5* 4
- *Starvert iG5* 5
- *Starvert iS5* 6
- *Starvert iH* 7
- *Starvert iG5A* 8
- *Starvert iP5A* 9
- *Standard features & Configuration comparison* 10

Starvert iC5

- Volts / hertz & sensorless vector control
- Motor parameter auto-tuning
- 150% torque at 0.5Hz
- 0 ~ 400Hz output frequency
- 1 ~ 15kHz carrier frequency
- Built-in process PID control
- Ground fault protection
- Built-in RFI filter (class A)
- Built-in potentiometer
- Programmable I / O
- PNP / NPN selectable signal input
- 0 ~ 10Vdc Analog output
- Optional ModBus communication board

Dynamic & Micro single phase inverter

0.4 ~ **2.2** kW, 1 ϕ

Specifications

Model			SV004iC5-1	SV008iC5-1	SV015iC5-1	SV022iC5-1	SV004iC5-1F	SV008iC5-1F	SV015iC5-1F	SV022iC5-1F
Motor rating		[HP]	0.5	1	2	3	0.5	1	2	3
		[kW]	0.4	0.75	1.5	2.2	0.4	0.75	1.5	2.2
Output ratings	Capacity	[kVA]	0.95	1.9	3	4.5	0.95	1.9	3	4.5
	FLA	[A]	2.5	5	8	12	2.5	5	8	12
	Voltage	[V]	Three phase, 200~230V							
	Frequency	[Hz]	0~400Hz							
Input ratings	Voltage	[V]	Single phase, 200~230V (±10%)							
	Frequency	[Hz]	50~60Hz (±5%)							

Control method	• Sensorless vector • V/F	
Frequency setting resolution	• Digital reference: 0.01Hz • Analog reference: 0.06Hz at 60Hz	
Frequency setting accuracy	• Digital: 0.01% of Maximum output frequency • Analog: 0.1% of Maximum output frequency	
V/F ratio	• Linear • Square • User V/F	
Overload capacity	• 1 minute at 150% • 30 seconds at 200% (with inverse characteristic proportional to time)	
Torque boost	• Auto • Manual	
RFI filter	None	Built-in (class A)
Multi-function input terminals	Total 5 inputs (programmable)	
Analog output	0~10Vdc	

Input signal	Operator control	• 3 digits LED keypad • Terminals • ModBus communication(option)
	Frequency setting	• Analog: 0~10V, 4~20mA • Digital: Keypad • Communication: ModBus • Built-in potentiometer
	Start signal	• Forward • Reverse
	Multi-step operation	Setting up to 8 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1~6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• PID control • Up-Down operation • 3-wire operation • Frequency limit • Frequency jump • Second motor function • Slip compensation • Reverse rotation prevention • Auto restart
	Emergency stop	Interrupting output from inverter
	Jog	Jog operation
	Fault reset	Resets fault signal when protective function is active
Output signal	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop • Constant speed • Speed search • Fault output (Relay output and Open collector output)
	Indicator	• Output frequency • Output current • Output voltage • DC bus voltage

Protective functions	Trip	• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat • I/O phase loss • I/O miss wiring • Overload • External device fault 1 & 2 • Speed command loss • Hardware fault • Communication error • CPU error
	Alarm	• Stall • Overload

User friendly compact inverter

0.4 ~ **4.0** kW, 3 ϕ

0.4 ~ **1.5** kW, 1 ϕ

Starvert iG5

- Space vector control technology
- Volts / hertz control
- 150% torque at 0.5Hz
- 1 ~ 10kHz carrier frequency
- Trip-free operation algorithm
- Auto & manual torque boost
- 8 preset speeds
- Built-in process PID
- Built-in braking IGBT
- Built-in ModBus / RS485 communication
- PNP / NPN selectable signal
- 4 digits detachable display (keypad)
- Parameter upload & download

Specifications

Model			SV004iG5-1U	SV008iG5-1U	SV015iG5-1U	SV004iG5-2U	SV008iG5-2U	SV015iG5-2U	SV022iG5-2U	SV037iG5-2U	SV040iG5-2U
Motor rating		[HP]	0.5	1	2	0.5	1	2	3	5	5.4
		[kW]	0.4	0.75	1.5	0.4	0.75	1.5	2.2	3.7	4
Output ratings	Capacity	[kVA]	1.1	1.9	3	1.1	1.9	3	4.5	6.1	6.5
	FLA	[A]	3	5	8	3	5	8	12	16	17
	Voltage	[V]	Three phase, 200~230V								
	Frequency	[Hz]	0~400Hz								
Input ratings	Voltage	[V]	Single phase, 200~230V (±10%)			Three phase, 200~230V (±10%)					
	Frequency	[Hz]	50~60Hz (±5%)			50~60Hz (±5%)					

Model			SV004iG5-4U	SV008iG5-4U	SV015iG5-4U	SV022iG5-4U	SV037iG5-4U	SV040iG5-4U
Motor rating		[HP]	0.5	1	2	3	5	5.4
		[kW]	0.4	0.75	1.5	2.2	3.7	4
Output ratings	Capacity	[kVA]	1.1	1.9	3	4.5	6.1	6.5
	FLA	[A]	1.1	2.5	4	6	8	9
	Voltage	[V]	Three phase, 380~480V					
	Frequency	[Hz]	0~400Hz					
Input ratings	Voltage	[V]	Three phase, 380~480V (±10%)					
	Frequency	[Hz]	50~60Hz (±5%)					

Control method		• V/F Control (Space Vector PWM)
Frequency setting resolution		• Digital reference: 0.01Hz (below 99Hz) & 0.1Hz (100Hz and over) • Analog reference: 0.03Hz at 50Hz
Frequency setting accuracy		• Digital: 0.01% of Maximum output frequency • Analog: 0.1 % of Maximum output frequency
V/F ratio		• Linear • Square • User V/F
Overload capacity		• 1 minute at 150% • 30 seconds at 200% (with inverse characteristic proportional to time)
Torque boost		• Auto • Manual (0~15%)
Assigned terminals		• FX (forward) • RX (reverse) • BX (inverter gate blocking) • RST (reset) • JOG (Jog)
Multi-function input terminals		Total 3 inputs (programmable)
Analog output		0~10Vdc
Input signal	Operator control	• 4 digits LED keypad • Terminals • ModBus communication
	Frequency setting	• Analog: 0~10V, 4~20mA • Digital: Keypad • Communication: ModBus
	Start signal	• Forward • Reverse
	Multi-step operation	Setting up to 8 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1~6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• DC braking • Frequency limit • Frequency jump • Second motor function • Slip compensation • Reverse rotation prevention • Auto restart • PID controls
	Emergency stop	Interrupting output from inverter
	Jog	Jog operation
	Fault reset	Resets fault signal when protective function is active
Output signal	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop • Constant speed • Speed search • Fault output (Relay and Open collector output)
	Indicator	• Output frequency • Output current • Output voltage • DC voltage • rpm
Protective functions	Trip	• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat • I/O phase loss • I/O miss wiring • Overload • Speed command loss • Hardware fault • Communication error
	Alarm	• Stall • Overload

Starvert iS5

- Sensorless & sensored vector control
- Full vector, 150% torque in overall range (continuous torque & speed control)
- Motor parameter auto-tuning
- 1 ~ 15kHz carrier frequency
- Auto speed search
- Built-in process PID control
- Optional multi-motor control (up to 4)
- 32 characters LCD & 7-segment display keypad
- Parameter upload & download (LCD Loader only)
- Extendable optional I / O sub-boards
- Optional communication boards: RS485, ModBus, ProfiBus-DP, DeviceNet
- Built-in braking IGBT (up to 7.5kW)
- Built-in keypad over 30kW

Precise high torque full vector control inverter

0.75 ~ 75 kW

Specifications

Model			SV008 iS5-2NU	SV015 iS5-2NU	SV022 iS5-2NU	SV037 iS5-2NU	SV055 iS5-2NU	SV075 iS5-2NU	SV110 iS5-2NU	SV150 iS5-2NU	SV185 iS5-2NU	SV220 iS5-2NU	SV300 iS5-2U	SV370 iS5-2U	SV450 iS5-2U	SV550 iS5-2U
Motor rating		[HP]	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75
		[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
Output ratings	Capacity	[kVA]	1.9	3	4.5	6.1	9.1	12.2	17.5	22.9	28.2	33.5	46	55	68	84
	FLA	[A]	5	8	12	16	24	32	46	60	74	88	122	146	180	220
	Voltage	[V]	Three phase, 200~230V													
	Frequency	[Hz]	0~400Hz (Sensorless vector Control: 0~300Hz, Sensored Vector Control: 0~120Hz)													
Input ratings	Voltage	[V]	Three phase, 200~230V (±10%)													
	Frequency	[Hz]	50~60Hz (±5%)													

Model			SV008 iS5-4NU	SV015 iS5-4NU	SV022 iS5-4NU	SV037 iS5-4NU	SV055 iS5-4NU	SV075 iS5-4NU	SV110 iS5-4NU	SV150 iS5-4NU	SV185 iS5-4NU	SV220 iS5-4NU	SV300 iS5-4U	SV370 iS5-4U	SV450 iS5-4U	SV550 iS5-4U	SV750 iS5-4U
Motor rating		[HP]	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
		[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output ratings	Capacity	[kVA]	1.9	3	4.5	6.1	9.1	12.2	18.3	22.9	29.7	34.3	45	56	68	82	100
	FLA	[A]	2.5	4	6	8	12	16	24	30	39	45	61	75	91	110	152
	Voltage	[V]	Three phase, 380~480V														
	Frequency	[Hz]	0~400Hz (• Sensorless vector Control: 0~300Hz, • Sensored Vector Control: 0~120Hz)														
Input ratings	Voltage	[V]	Three phase, 380~480V (±10%)														
	Frequency	[Hz]	50~60Hz (±5%)														

Control method		• V/F Control • Sensorless vector Control • Sensored Vector Control (Velocity, Torque) selectable
Frequency setting resolution		• Digital reference: 0.01Hz (below 99Hz) & 0.1Hz (100Hz and over) • Analog reference: 0.03Hz at 60Hz
Frequency setting accuracy		• Digital: 0.01% of Maximum output frequency • Analog: 0.1 % of Maximum output frequency
V/F ratio		• Linear • Square • User V/F
Overload capacity		• 1 minute at 150% • 30 seconds at 200% (with inverse characteristic proportional to time)
Torque boost		• Auto • Manual (0~15%)
Assigned terminals		• FX (forward) • RX (reverse) • BX (inverter gate blocking) • RST (reset) • JOG (Jog)
Multi-function input terminals		Total 3 inputs (programmable)
Analog output		0~10V linear
Input signal	Operator control	• 32 character LCD keypad • 4 digits LED keypad • Terminals • Communication (ModBus-RTU, RS485, ProfiBus-DP, DeviceNet, F-Net)
	Frequency setting	• Analog: 0~10V, 4~20mA, additional port for Sub-Board (0~10V) • Digital: Keypad • Communication
	Start signal	• Forward • Reverse
	Multi-step operation	Setting up to 8 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1~6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• DC braking • Frequency limit • Frequency jump • Second motor function • Slip compensation • Reverse rotation prevention • Auto restart • Inverter by-pass • Auto-tuning • PID control
	Emergency stop	Interrupting output from inverter
	Auto operation	Operates from Internal Sequence by Setting Multi-Function Terminal (5Way × 8Step)
	Jog	Jog operation
	Fault reset	Resets fault signal when protective function is active
Output signal	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop • Constant speed • Speed search • Fault output (Relay and Open collector output) • Inverter by-pass • Auto-operation step • Auto-operation sequence
	Indicator	• Output frequency • Output current • Output voltage • DC voltage • Output torque (output voltage: 0~10V)
Protective functions	Trip	• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat • I/O phase loss • I/O miss wiring • Fuse open • Ground fault • External fault 1, 2 • Option fault • Overload • Speed command loss • Hardware fault • Communication error
	Alarm	• Stall • Overload • Temperature sensor fault

Robust dual rated high power inverter

30 ~ **220** kW, (CT & VT)

Starvert iH

- Space vector control algorithm
- Volts / hertz control (PWM by IGBT)
- Constant / Variable torque dual rating
- 32bits DSP (Digital signal processor)
- 2 ~ 10kHz carrier frequency
- Built-in process PID control
- 32 characters LCD display
- Parameter upload & download
- 4 ~ 20mA analog output
- Optional communication boards: RS485

Specifications

Model		SV030 iH-2U	SV037 iH-2U	SV045 iH-2U	SV055 iH-2U	SV030 iH-4U	SV037 iH-4U	SV045 iH-4U	SV055 iH-4U	SV075 iH-4U	SV090 iH-4U	SV110 iH-4U	SV132 iH-4U	SV160 iH-4U	SV220 iH-4U
Motor rating	Constant Torque [HP]	40	50	60	75	40	50	60	75	100	125	150	175	215	300
	Constant Torque [kW]	30	37	45	55	30	37	45	55	75	90	110	132	160	220
	Variable Torque [HP]					50	60	75	100	125	150	175	215	250	350
	Variable Torque [kW]					37	45	55	75	90	110	132	160	185	280
Output ratings (380V based)	Constant Torque FLA [A]	122	146	180	220	61	75	91	110	152	183	223	264	325	432
	Constant Torque [kVA]	46	55	68	83	40	50	60	70	100	120	145	170	200	280
	Variable Torque FLA [A]					80	96	115	125	160	228	264	330	361	477
	Variable Torque [kVA]					52	62	74	80	103	147	170	213	233	307
	Voltage [V]	Three phase, 200~230V				Three phase, 380~460V									
	Frequency [Hz]	0~400Hz				0~400Hz									
Input ratings	Voltage [V]	Three phase, 200~230V (±10%)				Three phase, 380~460V (±10%)									
	Frequency [Hz]	50~60Hz (±5%)				50~60Hz (±5%)									

Control method		• V/F Control (Space Vector PWM)
Frequency setting resolution		• Digital reference: 0.01Hz (below 99Hz) & 0.1Hz (100Hz and over) • Analog reference: 0.03Hz at 60Hz
Frequency setting accuracy		• Digital: 0.01% of Maximum output frequency • Analog: 0.1 % of Maximum output frequency
V/F ratio		• Linear • Non-linear • User V/F
Overload capacity	Constant Torque	• 1 minute at 150% • 0.5 seconds at 200% (with inverse characteristic proportional to time)
	Variable Torque	• 1 minute at 110% • 0.5 seconds at 150% (with inverse characteristic proportional to time)
Torque boost		• Auto • Manual (0~20%)
Assigned terminals		• FX (forward) • RX (reverse) • BX (inverter gate blocking) • RST (reset)
Multi-function input terminals		Total 6 inputs (programmable)
Analog output		• 0~10V pulse • 4~20mA linear

Input signal	Operator control	• 32 character LCD keypad • Terminals • Communication (RS-485: LSBus)
	Frequency setting	• Analog: 0~10V, 4~20mA, additional port for Sub-Board (0~10V) • Digital: Keypad • Communication
	Start signal	• Forward • Reverse
	Multi-step operation	Setting up to 8 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1~6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• DC braking • Frequency limit • Frequency jump • Slip compensation • PI control • Stall prevention
	Emergency stop	Interrupting output from inverter
	Jog	Jog operation
	Fault reset	Resets fault signal when protective function is active
Output signal	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop
		• Constant speed • Speed search
	Indicator	• Output frequency • Output current • Output voltage • rpm

Protective functions	Trip	• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat • Fuse open • Ground fault • Overload
		• Main CPU error
	Alarm	• Stall • Overload

Starvert iG5A

Powerful & compact sensorless vector control inverter

0.4 ~ 7.5 kW

- Extremely compact in its size
- Volts / hertz and sensorless vector control
- 150% torque in overall range
- Motor parameter auto-tuning at stop mode
- Changing carrier frequency as per Module temperature
- Ground fault detection during run
- Built-in process PID control
- Up / down & 3-wire operational function
- Optional remote keypad
- 0 ~ 10Vdc, -10 ~ +10Vdc Analog Input
- PNP / NPN selectable signal input
- Selectable configured I / O
- Built-in RS485 (LSBus, ModBus-RTU) communication
- Built-in braking IGBT
- Cooling fan On / Off control

Specifications

Model			SV004iG5A-2	SV008iG5A-2	SV015iG5A-2	SV022iG5A-2	SV037iG5A-2	SV040iG5A-2	SV055iG5A-2	SV075iG5A-2
Motor rating		[HP]	0.5	1	2	3	5	5.4	7.5	10
		[kW]	0.4	0.75	1.5	2.2	3.7	4	5.5	7.5
Output ratings	Capacity	[kVA]	0.95	1.9	3	4.5	6.1	6.5	9.1	12.2
	FLA	[A]	2.5	5	8	12	16	17	24	32
	Voltage	[V]	Three phase, 200~230V							
	Frequency	[Hz]	0~400Hz							
Input ratings	Voltage	[V]	Three phase, 200~230V (-15%, +10%)							
	Frequency	[Hz]	50~60Hz (±5%)							

Model			SV004iG5A-4	SV008iG5A-4	SV015iG5A-4	SV022iG5A-4	SV037iG5A-4	SV040iG5A-4	SV055iG5A-4	SV075iG5A-4
Motor rating		[HP]	0.5	1	2	3	5	5.4	7.5	10
		[kW]	0.4	0.75	1.5	2.2	3.7	4	5.5	7.5
Output ratings	Capacity	[kVA]	0.95	1.9	3	4.5	6.1	6.9	9.1	12.2
	FLA	[A]	1.25	2.5	4	6	8	9	12	16
	Voltage	[V]	Three phase, 380~480V							
	Frequency	[Hz]	0~400Hz							
Input ratings	Voltage	[V]	Three phase, 380~480V (-15%, +10%)							
	Frequency	[Hz]	50~60Hz (±5%)							

Control method		• V/F Control • Sensorless vector Control
Frequency setting resolution		• Digital reference: 0.01Hz (below 99Hz) & 0.1Hz (100Hz and over) • Analog reference: 0.06Hz at 60Hz
Frequency setting accuracy		• Digital: 0.01% of Maximum output frequency • Analog: 0.1 % of Maximum output frequency
V/F ratio		• Linear • Square • User V/F
Overload capacity		• 1 minute at 150% • 30 seconds at 200% (with inverse characteristic proportional to time)
Torque boost		• Auto • Manual (0~15%)
Multi-function input terminals		Total 8 inputs (programmable)
Analog output		0~10V linear
Input signal	Operator control	• 4 digits LED keypad • Terminals • Communication (LSBus, ModBus-RTU)
	Frequency setting	• Analog: 0~10V, 0(4)~20mA • Digital: Keypad • Communication
	Multi-step operation	Setting up to 8 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1~6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• DC braking • Frequency limit • Frequency jump • Second motor function • Slip compensation • Reverse rotation prevention • Auto restart • Inverter by-pass • Auto-tuning • PID control
	Emergency stop	Interrupting output from inverter
	Jog	Jog operation
	Fault reset	Resets fault signal when protective function is active
Output signal	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop • Constant speed • Speed search • Fault output (Relay and Open collector output) • Inverter by-pass • Auto-operation step • Auto-operation sequence
	Indicator	• Output frequency • Output current • Output voltage • DC voltage • Output torque (output voltage: 0~10V)
Protective functions	Trip	• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat (i^2t) • Fan failure • Overload • Speed command loss • Hardware fault • Communication error • Input/output phase loss • Power module failure
	Alarm	• Stall • Overload • Temperature sensor fault

Fan & Pump exclusive use inverter

5.5 ~ 90 kW

Starvert iP5A

- Variable torque rating for HVAC and pump
- Volts / hertz and sensorless vector control
- 150% torque in overall range
- Motor parameter auto-tuning
- High speed 32 bits Digital signal processor
- 0.7 ~ 15kHz carrier frequency
- Built-in multi-motor control (up to 4)
- Built-in process PID control
- Up / Down & 3-wire operational function
- Built-in ModBus (RS485) communication
- 0 ~ 10Vdc, -10 ~ +10Vdc Analog Input
- PNP / NPN selectable signal input
- External (NTC/PTC) input
- Optional extendable sub-boards, ProfiBus & DeviceNet (Soon to be released)
- Optional braking unit
- Cooling fan On / Off control (above 37kW)

Specifications

Model		SV055 iP5A-2	SV075 iP5A-2	SV110 iP5A-2	SV150 iP5A-2	SV185 iP5A-2	SV220 iP5A-2	SV300 iP5A-2
Motor rating	Variable torque [HP]	7.5	10	15	20	25	30	40
	Variable torque [kW]	5.5	7.5	11	15	18.5	22	30
Output ratings	Variable torque [kVA]	9.1	12.2	17.5	22.9	28.2	33.5	46
	Variable torque FLA[A]	24	32	46	60	74	88	122
	Voltage [V]	Three phase, 200~230V						
	Frequency [Hz]	0~120Hz						
Input ratings	Voltage [V]	Three phase, 200~230V (-15%, +10%)						
	Frequency [Hz]	50~60Hz (±5%)						

Model		SV055 iP5A-4	SV075 iP5A-4	SV110 iP5A-4	SV150 iP5A-4	SV185 iP5A-4	SV220 iP5A-4	SV300 iP5A-4	SV370 iP5A-4	SV450 iP5A-4	SV550 iP5A-4	SV750 iP5A-4	SV900 iP5A-4
Motor rating	Variable torque [HP]	7.5	10	15	20	25	30	40	50	60	75	100	125
	Variable torque [kW]	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90
Output ratings	Variable torque [kVA]	9.1	12.2	18.3	22.9	29.7	34.3	45	57.2	69.4	83.8	115.8	139.5
	Variable torque FLA[A]	12	16	24	30	39	45	61	75	91	110	152	183
	Voltage [V]	Three phase, 380~480V											
	Frequency [Hz]	0~120Hz											
Input ratings	Voltage [V]	Three phase, 380~480V (-15%, +10%)											
	Frequency [Hz]	50~60Hz (±5%)											

Control method		• V/F Control • Sensorless vector Control
Frequency setting resolution		• Digital reference: 0.01Hz (below 99Hz) & 0.1Hz (100Hz and over) • Analog reference: 0.06Hz at 60Hz
Frequency setting accuracy		• Digital: 0.01% of Maximum output frequency • Analog: 0.1 % of Maximum output frequency
V/F ratio		• Linear • Square • User V/F
Overload capacity		• 1 minute at 110% • 4 seconds at 150% (with inverse characteristic proportional to time)
Torque boost		• Auto • Manual (0~15%)
Multi-function input terminals		Total 8 inputs (programmable)
Analog output		0~10V linear
Input signal	Operator control	• 32 character LCD keypad • 4 digits LED keypad • Terminals • Modbus-RTU communication • Optional ModBus-RTU, RS485, ProfiBus-DP, DeviceNet, F-Net (Soon to be released)
	Frequency setting	• Analog: 0~10V, 0(4)~20mA, additional port for Sub-Board (0~10V) • Digital: Keypad • Communication
	Start signal	• Forward • Reverse
	Multi-step operation	Setting up to 16 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1~6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• DC braking • Frequency limit • Frequency jump • Second motor function • Slip compensation • Reverse rotation prevention • Auto restart • Inverter by-pass • Auto-tuning • PID control
	Emergency stop	Interrupting output from inverter
	Jog	Jog operation
	Fault reset	Resets fault signal when protective function is active
Output signal	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop • Constant speed • Speed search • Fault output (Relay and Open collector output) • Inverter by-pass • Auto-operation step • Auto-operation sequence
	Indicator	• Output frequency • Output current • Output voltage • DC voltage • Output torque (output voltage: 0~10V)
Protective functions	Trip	• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat • I/O phase loss • I/O miss wiring • Fuse open • Ground fault • External fault 1, 2 • Option fault • Overload • Speed command loss • Hardware fault • Communication error
	Alarm	• Stall • Overload • Temperature sensor fault

Standard features & Configuration comparison

Comparison Table		iC5	iG5	iS5
Enclosure	IP00			○
	IP20	●	●	●
	NEMA 1		Optional	
Rating	Single phase	0.4~2.2kW	0.4~1.5kW	
	Three phase		0.4~4kW	0.75~75kW
	Constant torque	●	●	●
	Variable torque			
Input voltage margin		-10~+10%	-10~+10%	-10~+10%
Carrier frequency		1~15kHz	1~10kHz	1~15kHz
Braking Torque	without optional resistor	20%	20%	100%
	with optional resistor		150%	150%
Output Frequency		0~400Hz	0~400Hz	0~400Hz
Control method	V/F	●	●	●
	Sensorless vector	●		●
	sensored vector			●
Keypad	Fixed	●		
	Removable		●	●
Operator control	LCD keypad			Optional
	4 digits 7-segment keypad		●	Optional
	3 digits 7-segment keypad	●		
Built-in potentiometer		●		
PNP / NPN selectable signal		●	●	
Communication	RS485		(built-in)	Optional
	Modbus-RTU	Optional	built-in	Optional
	Profibus DP			Optional
	DeviceNet			Optional
	F-Net (LS)			Optional
I/O extension	3 Sub-boards			●
	Encoder feedback			●
	Flexible I/O	●		●
Software features	Cooling fan On/Off control			
	Auto-tuning	●		●
	PI control			
	PID control	●	●	●
	Multi-motor control			●
Analog input	0~10V	●	●	●
	-10~+10V			
	0~20 mA, 4~20mA	●	●	●
Analog output	1 × 0~10V	●	●	●
	2 × 0~10V			○ (Sub board)
	4~20 mA			
Remote option	2 meter LS cable		●	●
	3 meter LS cable		●	●
	5 meter LS cable		●	●
Ambient temperature		-10~50℃	-10~40℃	-10~40℃

iH	iG5A	iP5A
●		
	●	●
	Optional	UL Type1
30~280kW	0.4~7.5kW	5.5~90kW (VT only)
●	●	
●		●
-10~+10%	-15~+10%	-15~+10%
2~10kHz	0.7~15kHz	0.7~15kHz
20%	20%	100%
150%	150%	150%
0~400Hz	0~400Hz	0~120Hz
●	●	●
	●	●
●	●	●
●		Optional
	●	Optional
	●	●
Optional	(built-in)	Optional
(Optional) *	built-in	built-in
		Optional
		Optional
		Optional
		●
		●
	●	
	●	●
	●	●
●		
	●	●
		●
●	●	●
	●	●
●	●	●
	●	
●		●
●		
●	●	●
● (5m)	●	●
● (10m)	●	●
-10~40℃	-10~50℃	-10~50℃

* By using iS5 communication card.

RFI Filters

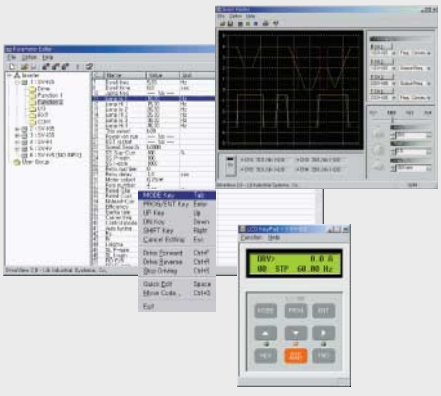
	Class A	Class B
0.4 ~ 2.2kW iC5	Built-in	Footprint*
		Standard*
0.4 ~ 4.0kW iG5	Footprint	Footprint
	Standard	Standard
0.75 ~ 75kW iS5	Footprint	Footprint
	Standard	Standard
30 ~ 280kW iH		Standard
0.4 ~ 7.5kW iG5A	Built-in*	Built-in*
		Standard*
5.5 ~ 90kW iP5A	Built-in*	Built-in*
	Standard*	Standard*

* In progress.

Driveview®

Monitoring software

- Versatile, easy-to-use software for LS Inverter
- Provides intuitive means for monitoring, control and commissioning of Inverter
- Runs on RS-232 / 485 serial network connection
- Designed for Microsoft® Windows® 95 or later
- Keypad emulator
- Graphic monitor
- Parameter editor
- Text monitor



Leader in Electrics & Automation

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

LS Industrial Systems Co., Ltd.

www.lsis.biz

HEAD OFFICE

Yonsei Jaedan Severance Bldg., 84-11, Namdaemunno 5ga,
Jung-gu, Seoul, 100-753, Korea
Tel. (82-2)2034-4870
Fax. (82-2)2034-4713

Global Network

- **LS Industrial Systems Tokyo Office >> Tokyo, Japan**
  Address: 16F, Higashi-Kan, Akasaka Twin Towers 17-22, 2-chome, Akasaka, Minato-ku Tokyo 107-8470, Japan
  Tel: 81-3-3582-9128 Fax: 81-3-3582-0065 e-mail: dongjins@lsis.biz
- **LS Industrial Systems Dubai Rep. Office >> Dubai, U.A.E**
  Address: P.O.Box-114216, API World Tower, 303B, Sheikh Zayed road, Dubai, UAE.
  Tel: 971-4-3328289 Fax: 971-4-3329444 e-mail: hwyim@lsis.biz
- **LS-VINA Industrial Systems Co., Ltd >> Hanoi, Vietnam**
  Address: LSIS VINA Congty che tao may dien Viet-Hung Dong Anh Hanoi, Vietnam
  Tel: 84-4-882-0222 Fax: 84-4-882-0220 e-mail: srjo@hn.vnn.vn
- **LS Industrial Systems Hanoi Office >> Hanoi, Vietnam**
  Address: Room C21, 5Th Floor, Horison Hotel, 40 Cat Linh , Hanoi, Vietnam
  Tel: 84-4-736-6270/1 Fax: 84-4-736-6269
- **Dalian LS Industrial Systems Co., Ltd. >> Dalian, China**
  Address: No. 15 Liaohexi 3 Road, Economic and Technical Development zone, Dalian, China
  Tel: 86-411-8273-7777 Fax: 86-411-8730-7560 e-mail: lixk@lgis.com.cn
- **LS Industrial Systems (Wuxi) Co., Ltd. >> Wuxi, China**
  Address: 102-A National High&New Tech Industrial Development Area, Wuxi, Jiangsu, China
  Tel: 86-510-534-6666 Fax: 86-510-522-4078 e-mail: Xuhg@lgis.com.cn
- **LS Industrial Systems International Trading (Shanghai) Co., Ltd >> Shanghai, China**
  Address: Room E-G, 12th Floor Huamin Empire Plaza, No.726, West Yan'an Road Shanghai 200050, P.R. China
  Tel: 86-21-6278-4291 Fax: 86-21-6278-4372 e-mail: xuhg@lgis.com.cn
- **LS Industrial Systems Shanghai Office >> Shanghai, China**
  Address: Room 1705~1707, 17th Floor Xinda Commercial Building, No.322, Xian Xia Road Shanghai 200336, China
  Tel: 86-21-6208-7610 Fax: 86-21-6278-4292
- **LS Industrial Systems Beijing Office >> Beijing, China**
  Address: B-Tower 17 Fl. Beijing Global Trade Center B/D. No. 36, BeisanhUanDong-Lu, DongCheong-District, Beijing 100013, P.R. China
  Tel: 86-10-6462-3254 Fax: 86-10-6462-3236 e-mail: linsz@lgis.com.cn
- **LS Industrial Systems Guangzhou Office >> Guangzhou, China**
  Address: Room 1403, 14F, New Poly Tower, 2 Zhongshan Liu Road, Guangzhou, China
  Tel: 86-20-8326-6754 Fax: 86-20-8326-6287 e-mail: zhangch@lgis.com.cn
- **LS Industrial Systems Chengdu Office >> Chengdu, China**
  Address: 12Floor, Guodong Building, No52 Jindun Road Chengdu, 610041, P.R. China
  Tel: 86-28-8612-9151 Fax: 86-28-8612-9236 e-mail: hongkonk@vip.163,com
- **LS Industrial Systems Qingdao Office >> Qingdao, China**
  Address: 7B40,Haixin Guangchang Shenye Building B, No. 9, Shangdong Road Qingdao, China
  Tel: 86-532-580-2539 Fax: 86-532-583-3793 e-mail: bellkuk@hanmail.net

Specifications in this catalog are subject to change without notice due to continuous product development and improvement.

2008. 01

Starvert Series(E) 2003.04/(20) 2008. 01 Printed in Korea STAFF